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ABSTRACT

The relative effectiveness of client-centered, rational-emotive, and desensitization therapies in reducing test anxiety among high school students was investigated. The sample was drawn from 2336 students in grades 10 through 12 who were administered the Spielberger State-Trait Anxiety Inventory (STAI). Thirty-three subjects with high State anxiety but average or low Trait anxiety were selected. Each student was counseled from seven to eleven times during a five-week period by advanced graduate students. Each student was randomly assigned to one of four groups, i.e. client-centered, rational-emotive, desensitization, or no-treatment control Counselor training sequences were designed for each of the three therapeutic approaches. Criterion measures were pre and post administrations of the STAI; psychogalvanic skin response (GSR) measures; and heart rate (HR) response measures. There were no significant differences between the four groups in the STAI; but significant differences at <.05 level were found in the predicted direction between group treatments and controls on criteria of GSR and HR. Post hoc analyses disclosed significance for the desensitization treatment group on GSR, and the rational-emotive treatment group on heart rate. Final analysis revealed differences only with the rational-emotive treatment group and controls on H.R. (Author/PR)

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# THE COMPARISON OF THREE APPROACHES TO THE REDUCTION OF TEST ANXIETY IN HIGH SCHOOL STUDENTS

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WAYNE R. MAES
ROBERT A. HEIMANN

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It is our sincere wish that the joint university-public school participation in this research sets a precedent for future similar ventures which are mutually beneficial.

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# I. INTRODUCTION

Counseling and guidance was born as a logical extension of emergent needs in expanding capitalism. The increased complexity in the world of work demanded measures for identifying and placing the right individual in the right job. In its early years, counseling and guidance was oriented toward the identification of personal traits and educational and vocational placement assumed to be suited to these traits. Such an orientation was a logical extension of the philosophy of free enterprise calling for maximum utilization of human resources. Later on, critical judgment from inside and outside the profession resulted in extensive evaluation of the effectiveness of trait measurement and subsequent job placement. The results revealed that the accuracy of this process was considerably less than had been believed. This process of building counseling practice from a philosophical-logical base and subsequently submitting it to experimental tests has been repeated again and again during the history of the profession.

Following the second World War, the primary emphasis in counseling and guidance gradually shifted from educational and vocational assessment and placement to a broader concern with the total personal and social development of the individual. The best known and most highly developed counseling technique during this period was Carl Rogers' client-centered counseling (41). Just as the logical-philosophical base for trait and factor measurement had arisen out of developing personal and social needs in an increasingly complex industrial society, client-centered counseling emerged, at least in part, as a reaction to the depersonalization often characteristic of the industrial and educational complex. The constitutionally affirmed individual liberties threatened by automation and its resultant personal anonymity were reaffirmed by the client-centered emphasis upon individual autonomy, freedom of choice, and the importance of a sense of individual integrity. Client-centered counseling arose and was nurtured more out of the logical and philosophical appeal of its basic tenets than out of its empirical validity, even though early research (43) pointed to its possible effectiveness as a change agent in counseling.

The appeal of its underlying assumptions about the nature of man and the optimistic quality of its outlook, buttressed by some research (43), resulted in the very wide acceptance and employment of client-centered techniques. While the skillful employment of the techniques involves the utilization of subtly differentiated behaviors on the part of the counselor, the basic techniques are deceptively simple and easy to employ. The apparent simplicity of

the approach only served to add to its appeal and to the general acceptance of the technique by a large number of counselors.

Many practitioners maintain the same unrelenting adherence to client-centered counseling that the early counselor had to trait and factor measurement followed by educational or vocational placement. However, the past five to ten years have been marked by the emergence of new approaches to counseling and psychotherapy whose basic philosophical-logical base and counseling techniques differ markedly from both trait and factor and client-centered approaches. Two of the newer approaches of particular interest are desensitization and rational-emotive therapy. These two approaches are of particular interest because, to some extent, their philosophical bases and especially their counseling practices are dramatically different from client-centered.

### Statement of Problem

It is the opinion of the authors that unrelenting allegiance to any professional technique is insufficient and that the job of the profession is to constantly attempt to test the efficacy of practices and alter them in light of new evidence. The purposes of this research were twofold:

1) To test the relative effectiveness of three approaches to counseling with respect to a specific problem of high school students

2) To examine ways of reducing text anxiety in high school students.

Specifically, the present research is designed to test the relative effectiveness of client-centered, rational-emotive, and desensitization therapy in reducing test anxiety among high school students.

## II. BACKGROUND OF THE STUDY

### Introduction

Franklin Delano Roosevelt once said, "The only thing we have to fear is fear itself." We might add to this statement that what man has to fear most are 1) fears inordinate to the threat, and 2) fears which exist in the absence of an actual threat to self-preservation. These unrealistic fears are often called

anxieties. To fear that which does not pose a real threat, or to be unable to distinguish the real from the presumed, is virtually always self-defeating. The consequences are an unnecessary restriction of range of activity in order to avoid fear along with intellectual, physical, and emotional counterparts (tension, narrowness of thought and perception) which make for inefficiency and unhappiness. Some salient dimensions of unrealistic fears are discussed in the following section on anxiety.

## ANXIETY

### Dynamic Models

Anxiety is a topic often dealt with by philosophers, writers, and psychologists. The modern age of preoccupation with anxiety was ushered in by the philosopher-theologian, Kierkegaard, in Fear and Trembling and Sickness unto Death (22). Dostoevsky, in a literary account of life in Russia, captured the panorama of human despair in Notes From the Underground (6). Freud (13) provided one of the earlier complete psychological treatments of anxiety, after devoting a substantial portion of his entire professional career to studying the topic.

In spite of the widespread attention to the phenomenon, anxiety remains relatively abstract and ambiguous. For example, Cattell and Scheier (3) identified more than 300 proposed definitions of anxiety. One reason for the ambiguity of the term is that it has been used to represent a wide variety of human phenomena. Kierkegaard used the term anxiety to represent the sense of distress accompanying the human being's awareness of his responsibility for his choices. Dostoevsky used it to depict the distress of estrangement from others and the fear of being discovered. Freud used the term, at least in his earlier writings, primarily with reference to the fear that unacceptable id impulses would find realization in consciousness and possibly expression in behavior.

Numerous attempts have been made to provide taxonomies of the anxiety phenomena. For example, existential philosopher Paul Tillich devotes the major part of his book The Courage To Be (54), to an elaboration of his explanation of human anxiety. He identifies and elaborates three major sources of human anxiety, i.e., the anxiety of fate and death, the anxiety of meaningless, and the anxiety of guilt and condemnation.

Freud also evolved a taxonomy of anxiety. He propounded both a general definition and an elaboration of the sources and types

of anxiety. His general definition identifies anxiety as:

1. A specific unpleasurable quality
2. Resulting in efferent or discharge phenomena, and
3. The perception of the above by the individual.

The sources of anxiety are threefold: 1) a reality anxiety, which is an external threat of self-preservation, 2) a neurotic anxiety, which is the fear that the id will overwhelm the ego and act out dangerous sexual or aggressive impulses, and 3) a moral anxiety, which is experienced as guilt or shame and is a consequence of the superego threatening severe punishment for overt and inappropriate expression of id needs.

One of the methodological difficulties in employing dynamic models of anxiety such as those of Tillich and Freud is that, while they are intricately and richly worked out, they are extremely difficult to measure quantitatively. This is undoubtedly one of the reasons why Freud's psychoanalytic theory, for example, remains largely unsubstantiated. The system is so elaborate, interdependent and so often descriptive of internal states of consciousness that confirmation or disconfirmation experimentally is exceedingly difficult. Attempts at measuring anxiety along the lines of Freudian model through such measures as projective techniques is fraught with controversy. The literature, for example, on the Rorschach and Thematic Apperception Test as measures of anxiety is, at best, equivocal.

## A Trait-State Conception of Anxiety

An objectively measurable and substantial (albeit more simple and less complete) conception of anxiety has been developed by Cattell and Scheier (3, 4). They have developed a taxonomy of two types of anxiety (trait anxiety and state anxiety) on the basis of factor analysis of test items presumed to have relevance to anxiety states. Trait anxiety identifies a characterological feature of the individual who is more prone to emit an anxiety response in a variety of situations. State anxiety is considered a transitory state of the organism in specific situations. Those variables that comprised the trait anxiety were: "ergic tension," "ego weakness," "guilt proneness," "suspiciousness," and "tendency to embarrassment" (4, pp. 57 and 182). Physiological variables such as respiration rate and systolic blood pressure were contributors to the major loadings on state anxiety. The trait anxiety appears to be a generalized, frequently present anxiety level which may occur in a variety of situations or may be present at some level when no apparent environmental threat exists. In

contrast, state anxiety is related to specific situations which hold some element of threat.

As previously defined, trait anxiety implies a propensity or disposition to respond to a stressor more readily and with more intensity. Numerous studies have been conducted on individuals presumed to differ in their propensity to evidence anxiety responses. For example, Malmo (29, 30) has concluded that patient groups possessing high levels of chronic anxiety show a greater intensity and variability of anxiety response, regardless of the specific stressful situation. Subjects have also been selected from normal populations (for example, on the basis of the Taylor Manifest Anxiety Scale) and divided into high and low anxiety groups for the purpose of studying the differential effects of specific stressors upon the presumed high and low levels of the anxiety trait (46, 51, 52). Such studies have demonstrated that individuals possessing high trait anxiety are generally more disposed to state anxiety than the average person and are likely to experience anxiety states more often. However, as Spielberger points out (49), individuals with high trait anxiety may not evidence a higher level of anxiety in situations which are devoid of stress.

There is, at present, theoretical and research support for the notion that there is a range of individual differences in the American population with respect to the possession of trait anxiety, or the predisposition to emit state anxiety in a wide variety of circumstances. Individuals possessing high trait anxiety tend to emit more intense and more irregular quantities of state anxiety in response to a variety of stressors than do the individuals possessing low trait anxiety.

## Anxiety and Learning

The results of experiments relating human learning to anxiety level consistently point out that high anxiety subjects achieve more rapid learning of simple conditioning but achieve the learning of complex intellectual tasks more slowly and less effectively. In six independent eye-lid conditioning studies reviewed by Taylor (53), the high anxiety subjects were consistantly found to achieve superior conditioning. In studying performance on complex serial maze tasks Farber and Spence (11), and Taylor and Spence (51), discovered that high anxiety subjects exhibited poorer performance than low anxiety subjects. Studies by Montague (34) and Lucas (28) corroborate the evidence of inferior learning of high anxiety subjects on complex serial learning tasks. Farber and Spence compared groups of high and low anxiety subjects on both simple and

complex learning tasks and found that the high anxiety subjects were superior in eye-lid conditioning but inferior in stylus maze learning.

## Anxiety and Test-Taking

The following major findings are derived from the research on anxiety and test-taking: 1) There is a realtionship between anxiety level and academic test performance. 2) This relationship supports the inverted-U hypothesis that an absence of, or a very high level of anxiety, is debilitating to test-taking effectiveness while a certain moderate amount of anxiety facilitates test-taking effectiveness. 3) There is a relationship between anxiety and test performance in the middle ability ranges, but this relationship disappears in the high and low ability groups. 4) Specific anxiety scales (test anxiety) are better predictors of academic test performance than the general anxiety scales.

Paul and Eriksen (36) found a significant negative relation between the Test Anxiety Questionnaire (32) and the School and College Ability Test on a sample of college students. This finding is consistent with those of Alpert and Haber (1) and Sarason (45). Paul and Eriksen further discovered that there is an optimum anxiety drive level for a given task. A drive level higher than or less than the optimum results in impaired performance. If individuals are hypertensive or completely relaxed and nonchalant their performance will be inferior to that of an alert and ready state in between the two extremes. The nature of this relationship between anxiety level and test performance has been referred to as the inverted-U phenomenon.

Paul and Eriksen (36) and Spielberger (47) have found that the contribution of test anxiety to academic test performance is related to the ability level of the subjects. For high and low ability groups with high anxiety, removing anxiety from the test situation results in an increment in performance on academic tests.

Finally, Alpert and Haber (1) found that a specific anxiety scale was superior to a general anxiety scale as a predictor of academic performance.

## Problems in Quantification

In studying research on transitory anxiety, Krause (23) identified six different types of evidence from which anxiety is inferred, viz., "introspective reports, physiological signs, 'molar' behavior (i.e., body posture, gesturing, speech

characteristics), task performance, clinical intuition, and the response to stress." Krause identified introspective reports as the most widely accepted basis for inferring transitory anxiety. In Spielberger, Anxiety and Behavior (48), Lazarus and Opton favor some combination of introspective reports and physiological or behavioral signs as the superior approach to validating the presence of anxiety states in humans. While introspection and physiological measures can be considered the best indices of anxiety, there are problems which attend both approaches to anxiety measurement. Salient among these problems are the following:

a. Introspective reports may often be inaccurate, as the subject for a variety of reasons may report his conscious state to be other than what it really is. For example, his wish to appear socially desirable may result in his introspective report camouflaging his true feelings (7).

b. Physiological indices such as respiration, heart rate, and galvanic skin response may vary as a result of emotional states other than anxiety (for example, anger, sexual excitement, or fear) and consequently the source of all physiological variation in studies of anxiety states cannot safely be attributed exclusively to anxiety (26).

## Summary

Anxiety is a much talked about, much studied concept which continues to be ambiguous and difficult to measure. Elaborate expositions of anxiety have been developed, such as those of Freud and Tillich. However, such intricate dynamic models do not readily lend themselves to measurement, prediction, and control.

The research evidence indicates that anxiety exists in individuals as a trait (disposition to be anxious) and a state (anxiety in a specific instance). Individuals possessing high trait anxiety tend to evidence more profound and variable anxiety in specific instances (state). Furthermore, high trait anxiety interferes with the effective learning of complex visual-cognitive-motor tasks. On the other hand, high trait anxiety facilitates the learning of simple, conditioned reflexes such as the eyeblink. High trait or state anxiety interferes with effective test-taking for individuals in the middle range of intelligence.

Specific anxiety scales are better predictors of academic performance than general anxiety scales. And, finally, the literature favors the use of both an introspective and a physiological measure in experimentation on anxiety.

In view of the controversy and ambiguity surrounding the definitions of anxiety, the authors are in agreement with Levitt, who says, "Anxiety is a hypothetical construct that must be defined operationally for experimental purposes. The definition is essentially the instrument or technique that is used to measure anxiety in the experiment." (26)

The instruments used in this study are the State-Trait Anxiety Inventory (STAI) (50) and two autonomic nervous system measures. Based on the STAI, anxiety is assumed to be present when an individual indicates that he is or is inclined to be "upset," "nervous," "jittery," "high strung," "worried," etc. Conversely, anxiety is assumed to be absent or existing in small quantities when the individual indicates that he is or is inclined to be "calm," "secure," "at ease," "rested," "comfortable," etc.

The physiological measures utilized in this study, heart rate (HR) and galvanic skin response (GSR), are assumed to be indicators of anxiety to the extent that they increase, during a situation assumed to be potentially stressful, as compared to a situation assumed to be restful.

## APPROACHES TO ANXIETY REDUCTION: CLIENT-CENTERED

### View of Man and Learning

The human individual is seen as possessing an innate tendency (42) to grow and develop in directions that are self-enhancing and which lead to satisfying social relations. There is thought to be an innate tendency to acknowledge the totality of experience. Narrowness and distortion of thought and perceptions are learned in an inclement environment. Mental health is reduced and development thwarted when the organism experiences something (an object, idea or feeling) as good or bad (organismic valuing) and this evaluation is contradicted by important people on whom the individual must depend. A conflict situation is set up in which the individual is called upon to deny the threatening ideas and feelings or defy the significant person. So dependent is the individual upon others for the satisfaction of basic biological needs that awarenesses are denied or distorted. These discrepancies between organismic valuing and social expectations result in a lack of self-acceptance and the individual's tendency to say, "They are right, what I value is bad and I am bad." This leads to what Rogers identifies as the core problem in neurosis, that is, the lack of congruence between the way "I see myself" and the way

"I ought to be," which is always anxiety-producing. (44)

## The Process of Relearning

The client-centered therapeutic intervention consists of providing conditions which enable the client to reaffirm his natural, correct, and growth facilitating organismic valuing processes, that is, conditions which enable him to reconstitute his natural self-actualizing tendencies which have been disrupted by learned internal conflict. The therapeutic conditions, according to Rogers, require the client's interaction with a counselor who conveys empathy, congruence, and unconditional positive regard (35). In his earlier writings, Rogers (41) identified specific techniques such as reflection, restatement of content, clarification and acceptance of client statements as essential dimensions of client-centered counseling. However, in later writings he has pointed out that the personal attitudes of the counselor are more important than the specific techniques (42, 44). For example, the parroting of reflective and clarifying statements by a counselor who is basically defensive and authoritarian is considered ineffective while the empathic counselor may exhibit quite a latitude of behaviors, including the expression of personal opinions and feelings, and still be quite effective in assisting a client.

Rogers' amphasis upon the importance of the person of the counselor has led to considerable emphasis in counselor training programs upon the development of the "person" of the counselor through didactic and therapeutic means (55).

## Therapeutic Reduction of Test Anxiety

Considerable counseling research has been conducted in which the client-centered approach has been employed (2, 43). While such outcome measures as achievement and scholastic test performance have been utilized, the more common criteria have been measures of self-concept and self-concept change. No research is known to the authors in which the express effort was to reduce test anxiety. However, reduction in test anxiety is logically consistent with the changes which are assumed to take place as a consequence of client-centered therapy. According to client-centered theory, a therapeutic consequence is the increase in self-acceptance, including both the positive and negative aspects of self. Consistent, then, with client-centered theory, one of the consequences of client-centered therapy would be reduced test anxiety resulting from an increased acceptance of one's performance, be it superior or inferior.

## APPROACHES TO ANXIETY REDUCTION: RATIONAL-EMOTIVE

### View of Man and Learning

Albert Ellis, the founder of rational-emotive therapy, views man as possessing the potential for rational and irrational behavior. Rational behavior is preferable because, according to Ellis' definition, it is behavior which increases personal happiness and reduces unhappiness. Ellis considers human unhappiness (existing to the extreme in neurosis) to be a consequence of 1) the human biological tendency to irrational thought, and 2) the tendency of human social groups to indoctrinate in these irrational ideas (8).

The human biological proclivity to irrational thought can best be seen in the tendency to learn to associate events that occur in proximity in time and space and to generalize them to other like events. For example, when a dog and a loud noise occur simultaneously, the resulting startle response can be generalized inappropriately to harmless animals. Social factors often intensify and perpetuate this biological tendency to learned, irrational fears. A parent's constant reminder to be cautious of dogs can indoctrinate the child so that he repeats to himself this irrational propaganda and consequently prolongs and intensifies his fear. Ellis points out that once these self-propagandizing sentences are learned, it is not the object (i.e., a dog) which generates the fear but the self-indoctrinating statement. As an illustration, the individual sees a dog, tells himself if he got close to the dog that would be awful, and reacts with an intense emotional response to the dog, which is followed by escape, avoidance or immobility. It is not the dog which causes the emotional reaction but the self-propagandizing thought which was learned as a result of the biological inclination to make non-discriminating associations and generalizations and the social support for these erroneous generalizations.

While there are numerous irrational, anxiety-producing thoughts with which individuals constantly indoctrinate themselves, Ellis has found three that are the most common and which often lie at the root of other nonsensical, anxiety-producing thoughts. These three crucial irrational ideas are:

1. I should be perfect
2. I should be always loved
3. Things should work out exactly the way I desire.

The unfortunate consequence of such thinking is that the individual will often be unhappy since such thinking is by its very nature irrational. Nobody is perfect, completely loved or has things work out exactly as he would like. The lack of fulfillment of these irrational desires results in the individual catastrophizing that if he is not perfect, That Would Be Awful; if others don't love him, He Cannot Love Himself; and if things don't work out as he wishes it is terrible and Someone Is To Blame. Consequently it is not necessarily a situation holding potential failure, loss of love, or depravation that causes the anxiety but the irrational wish associated with all situations followed by the notion that if the irrational ideas are not fulfilled, That Would Be Awful, That Would Be A Catastrophe.

## The Process of Relearning

The task of the rational-emotive therapist is to vigorously attack the erroneous, self-indoctrinating statements which the individual constantly tells himself (8). The destruction of the self-propagandizing thought (usually supported by significant others in one's life such as a parent, a boss, or a spouse) eliminates the irrational, fear-inducing statement and as a consequence the individual responds in an appropriate rather than in an exaggerated way to elements which had previously induced exaggerated fear. Ellis instructs and cajoles the individual who holds the irrational idea that, "I must be perfect," into believing a more rational idea. A more rational idea is that, "While perfection would be nice, less than perfection is not a catastrophe. Because I am not perfect it does not follow that I am a 'no good-nik.' It might be nice to be perfectly loved, but if I am not perfectly loved by others I can still respect and care about myself and enjoy the times when I am loved." Ellis maintains that the most effective way of defeating these irrational ideas is to actively, aggressively attack their irrational, untenable base and counter-propagandize, or instill ideas that have a more rational basis. The therapist must be constantly alert to identify the faulty thinking in his client, point out its irrational basis, encourage the client to forsake it and to accept more rational thinking that will lead to great happiness. Encouraging the clients to try out "home-work" assignments which involve acting upon the rational rather than the irrational ideas is an important aspect of rational-emotive counseling.

## Therapeutic Reduction of Test Anxiety

The research on rational-emotive psychotherapy is extremely limited and no investigations were found which studied the use of

rational-emotive psychotherapeutic techniques in the reduction of test anxiety. However, the underlying explanations of anxiety and the treatment procedures in rational-emotive therapy logically are ideally suited to the reduction of test anxiety. Irrational ideas underlying test anxiety might be, "I must do perfectly on this test," or "If I do poorly on this test I won't be loved and can't love myself." The task of the rational-emotive counselor would be to attack these underlying irrational ideas, supplant them with more rational ideas, and thus reduce the test anxiety.

## APPROACHES TO ANXIETY REDUCTION: DESENSITIZATION

### View of Man and Learning

The major contributor to the theory and practice of desensitization therapy has been Joseph Wolpe. Wolpe was educated in South Africa and, while serving in the military there, began to question the theoretical and practical basis of psychoanalysis. His inquiry led him to a study of Pavlov and Guthrie and the design of animal experiments with cats to test some hypotheses which he generated with respect to the nature of human learning and more particularly with respect to the learning and counterconditioning of neurotic responses.

Two major principles of learning underlie Wolpe's explanation of the development of neurotic behavior. These principles are 1) association, and 2) generalization. Wolpe believes the human organism is born with certain built-in reactions to stimuli. Of particular interest in the explanation of neurosis are the built-in reactions to noxious stimuli. For example, there is an innate startle reaction to loud noise. The human organism has the potential for associating the startle response with stimuli other than those responsible for the loud noise (for example, a rabbit in a cage, Jones (20)). When the <u>association</u> of a furry object with the autonomic components of the startle response has occurred and is <u>generalized</u> to similar furry objects, learning can be assumed to have occurred.

"Learning may be said to have occurred if a response has been evoked in temporal contiguity with a given sensory stimulus and it is subsequently found that the stimulus can evoke the response although it could not have done so before. If the stimulus could have evoked the response before the subsequently evokes it more strongly, then, too, learning may be said to have occurred." (57)

Based on the theory that neurosis is learned by associating an anxiety response with stimuli which are not noxious but which occur in temporal contiguity with the noxious stimulus, Wolpe postulated and tested the following hypotheses:

1. "The behavior manifested in an experimental neurosis must be essentially the same as that elicited by the stimulus situation that precipitates the neurosis.

2. The neurotic behavior must be of greater intensity when the animal is exposed to stimuli most like those in the presence of which the neurosis was precipitated, and the intensity must decrease as a direct function of diminishing resemblance (according to the principle of primary stimulus generalization)." (59)

Wolpe tested these hypotheses to his satisfaction using cats as experimental subjects in a box similar to that utilized by Masserman (33). A neurosis was induced by utilizing high voltage, low amperage shocks (57, 58). "In every animal the features of the reaction to the shock were duplicated in the reactions of the neurosis. The intensity of neurotic response decreased as the environment to which the neurotic animal was exposed was less similar to that of the experimental cage."

The key concepts in Wolpe's theory of neurotic learning as derived from his experimental studies are:

1. The human organism possesses biologically built-in anxiety responses to noxious stimuli.

2. By associative linkage, these anxiety responses may be elicited by a non-noxious stimulus (N N) which was previously temporally paired with the noxious stimulus.

3. The anxiety response is generalized to other non-noxious stimuli (N $N_1$) which resemble the (N N) to which an anxiety response was learned. The intensity of the anxiety response decreased concomitantly with decrease in similarity between NN and $NN_1$.

4. When an anxiety response is learned to NN and generalized to NN, a neurotic response can be said to have been learned.

## The Process of Relearning

Since the anxiety response in neurosis is learned by associative linkage and generalized to similar stimuli, the problem in

desensitization is to eliminate the bond or associative linkage between the non-noxious stimulus and the anxiety response. Wolpe (58) gave consideration to two major approaches to eliminating the neurotic bond between stimulus and response, viz., extinction and reciprocal inhibition. Pavlov (39) found very early that the intensity of an alarm response was diminished when the animal was repeatedly exposed to stimulus conditions very similar to those in which the neurosis was learned but this time with the noxious stimulus absent.

Guthrie later went beyond the simple omission (extinction) of the noxious stimulus when he pointed out (16) the need to control the relearning situation so that the cue to the original response was present while "other behavior prevails." Furthermore, he indicated that a behavior should prevail which is inhibiting to the one to be extinguished. This is clearly pointed out in Jones (20) counter-conditioning of a child's fear of an object. She encouraged the child to eat and then introduced the fear-inducing object at some distance so as not to interrupt the eating, the object was gradually moved closer over successive feedings until the fear reaction had disappeared. The rationale behind this approach is that the relaxed autonomic accompaniments of eating are inhibiting to the anxiety reaction and successive presentations of the feared object in the presence of relaxed behavior weakens the bond between anxiety and the object and strengthens the bond between relaxation and the object. Wolpe (58) used both extinction and reciprocal inhibition with his neurotic cats and found that while the neurotic reactions were not eliminated by extinction, they were through reciprocal inhibition.

Wolpe's findings in his experimental work with animals was extended into the development of theory and technique in the treatment of neurosis in humans. He assumed that neurotic reactions were learned by the associative bond between non-noxious stimuli and the anxiety response and that the job of the therapist was to decrease or eliminate this bond.

The approach that he selected was that of reciprocal inhibition with graduated stimulus presentation of events from least to most anxiety provoking. The anxiety-inhibiting behavior selected was physical relaxation, patterned after the work done by Jacobson (18). The stimulus presentation is designed following a series of diagnostic interviews with the client at which time the therapist and client rank events which generate a specific anxiety, from the least to most anxiety producing. The client is taught to relax physically and when this is mastered (over a period of several weeks) the therapy begins. Relaxation is initiated and then one

of the least anxiety-provoking events is presented in a graphic narrative. Treatment is successful when the therapist is able to present the most anxiety-producing events in narrative form with no apparent anxiety being present.

Relaxation and Therapeutic Reduction of Test Anxiety

Jacobson's work, Progressive Relaxation, (18) provided Wolpe with a response (relaxation) which did not require the client to exert any action response towards the source of his anxiety. However, Jacobson's relaxation procedure was a long and protracted effort requiring from 50 to 200 sessions. Wolpe found that in as few as 6 to 10 sessions he was able to relax his clients, and then rather than using actual phobic stimuli, he had his clients imagining anxiety situations. He noted that the experimental reduction of anxiety transferred to real situations.

Individual case reports involving treatment of a wide variety of phobias are common in current research. Geer (14) cured a lice phobia; Rachman (40) reported desensitizing a woman to fear of injections; Wolpe (60) reported his treatment of a client with a phobia of riding in an automobile. A follow-up 15 months later showed that improvement had been maintained. Other phobias and neurotic anxiety states successfully treated were concerned with lice, crowds, snakes, insomnia, alcoholism, stuttering, and aphasia. Ulmann and Krasner (56), Wolpe, Salter, and Reyna (60), and Eysenk (10) give an imposing compendium of successful treatment of phobias through use of the desensitization technique.

There are an increasing number of studies involving the use of the desensitization procedure that are noteworthy because of their experimental design and objective measures of therapeutic outcomes. Paul (37) compared the effects of systematic desensitization with other forms of short term individual treatment. Ninety-six subjects debilitated by public speaking anxiety were treated by five paid experienced psychotherapists who utilized desensitization, insight-oriented psychotherapy, and an attention-placebo treatment. Greater anxiety reduction for the desensitization group was noted on cognitive, physiological, and observable measures of stress-anxiety than for the other treatment groups. This was also confirmed by therapists' ratings and was maintained as a six week follow-up with no evidence of symptom substitution.

In a similar study, Paul and Shannon (38) evaluated the effects of systematic desensitization, psychotherapy, and an attention-placebo treatment again with regard to public speaking anxiety. Desensitization was administered to two groups of five

students each. The outcomes favored systematic desensitization over the other forms of treatment.

Kass (21) followed relaxation-desensitization procedures with a group of 48 test-anxious junior college students. He used a group of 16 for his treatment and compared results with an equal size "Hawthorne" group and a control group. His findings suggested a significant difference in favor of the desensitization group on the State-Trait Anxiety Inventory scores heart rate changes.

A number of investigators have addressed themselves to the question of determining if the components of systematic desensitization are as effective as the entire treatment. In general, it has been found that neither relaxation alone nor cognitive rehearsal alone are as effective as relaxation used in conjunction with the presentation of a graded hierarchy.

For example, controlled investigations by Lang and Lazovik (24) and Lang, Lazovik, and Reynolds (25) dealt primarily with college students who had severe phobias to harmless snakes. Evaluated was the degree of fear change associated with systematic desensitization, no treatment, placebo treatment, and the trait of suggestibility. The desensitization subjects showed greater fear reduction than the other treatment groups. Other conclusions reached by the authors were: (1) desensitization of a specific fear generalizes positively to other fears; (2) treatment by this method does not lead to symptom substitution; and (3) an extended relationship with the therapist along with relaxation training does not effect behavior change without the desensitization ingredient.

A study designed to ascertain the relative value of different ingredients in systematic desensitization was carried out by Davison (5). He found that neither graded exposure to snake stimuli alone nor relaxation and expectation of beneficial effects alone yielded significant changes in snake avoidance behavior. A similar study by Rachman (40) reported that a complete desensitization program was superior to desensitization minus relaxation (cognitive rehearsal) and to relaxation alone in the treatment of a spider phobia. Studies by Lomont and Edwards (27), with snake phobic students, and Johnson and Sechrist (19), with test-anxious students, support the contention that relaxation plus desensitization are more effective than relaxation alone.

The major contributions in the literature to test anxiety reduction derive from studies employing desensitization. The

research has consistently demonstrated that individuals treated by desensitization techniques show more marked decrease in test anxiety than do no-treatment controls (9, 17, 19).

Additional findings relative to the desensitization of test anxiety are that 1) Group treatment is as effective as individual (17), 2) Standard hierarchies are as effective as individualized hierarchies in desensitizing test anxiety (9).

## III. METHODS

### Selection of the Sample

The sample for this study was selected from 3,000 students in two Mesa Public High Schools in Mesa, Arizona. The State-Trait Anxiety Inventory (STAI) (Appendix V), which was the basis for selection, was administered to 2,336 of these students. The tests were administered in social studies classes and those students who were absent or who were not enrolled in social studies were not administered the selection instrument. The STAI yields two scores, one which indicates the present anxiety state (State) and the other which measures the individual's propensity to experience anxiety in daily living (Trait). There is some theoretical and research (24) evidence to the effect that individuals who possess high generalized anxiety (Trait) are more resistant to therapeutic measures aimed at reducing a specific anxiety than are individuals with low generalized anxiety. Consequently, the subjects for this study were selected from those students who scored in the upper 20 per cent of their group on the State (test) anxiety section of the inventory and in the lower 50 per cent on the Trait (generalized) anxiety section.

All students meeting the above-mentioned criteria were invited to attend a general meeting in their high school at which time the research program was explained and parent permission slips were distributed. They were instructed that those who wished to participate should return the signed permission slips the following day. While there was considerable student interest, several meetings were necessary to enlist the number of students desired for the research. It was possible to enlist the participation of forty-eight students, or twelve each for the three treatment and control groups. Attrition prior to or during the study resulted in group sizes of 7, 8, 7 and 9 rather than the desired fifteen participants in each group.

## Selection Instruments and Criterion Measures

The instrument used for selection of clients for the study was the State-Trait Anxiety Inventory (50). This instrument was selected on the basis of three criteria: 1) It lends itself to the measurement of both predisposition to anxiety as a personality characteristic (Trait) and the degree of anxiety in a specific situation such as test-taking (State), 2) It is standardized and possesses acceptable reliability and validity, and 3) It is brief and easy to administer.

## The State-Trait Anxiety Inventory

"The State-Trait Anxiety Inventory (STAI) consists of separate self-report scales for measuring two distinctive anxiety concepts: state-anxiety (A-State) and trait-anxiety (A-Trait). The A-State Scale of the STAI consists of 20 statements that ask people to describe how they feel at a particular moment in time. The A-Trait Scale consists of 20 statements that ask people to describe how they generally feel." (50)

The items for determining trait and state anxiety are identical, only the instructions vary. In discussing a variety of scales designed to measure anxiety, Levitt (26) has this to say:

"The STAI is the most carefully developed instrument, from both theoretical and method-logical standpoints, of those presented in this chapter. The test construction procedures described (50) are highly sophisticated and rigorous. -- The sole shortcoming of their work is, perhaps, that it has been carried out entirely with college student groups." (pp. 71-72)

The sole criticism is partially mitigated by the later inclusion of high school juniors in norms.

A detailed discussion of the standardization procedures for the STAI can be found in Spielberger, Gorsuch and Lushene (50). The normative data on the scale are derived from its use with three samples, viz., 182 incoming freshmen at Florida State University; and 377 high school juniors at the Long Beach, New York, Senior High School. The test scores are reported as normalized T-scores with a mean of 50 and a standard deviation of 10.

The reliability indices reported for the two scales of the STAI are quite respectable. The internal consistency reliabilities for the three samples calculated by K-R 20 range from .83 to .92. The test-retest reliabilities for the A-Trait with one hour,

20 hour and 104 hour intervals range from .76 to .77 and for the A-State range from .16 to .31. Since the A-State should fluctuate considerably from time to time to reflect the shifts in anxiety states, the low test-retest reliability is desirable.

Spielberger (50) reported item validities which were built into the test during standardization. Concurrent validities with the IPAT and TMAS for college students (N=80 males and 126 females) range from .75 to .80.

In the present study the STAI was administered to the total group of 233 students prior to the study for the purpose of selecting subjects and again at the conclusion of the study to the experimental and control samples as a post-test measure of treatment effects.

## Physiological Data

Following the treatment, heart rate (HR) and psychogalvanic skin response measures (GSR) were taken on each subject during a simulated test-taking situation. There is some difference of opinion in the literature concerning the usefulness of physiological measures. For example, Levitt (26) contends that physiological indices are not useful as indicators of anxiety because they are seldom related to each other, to psychological measures, or to increase in stress. He concludes his brief commentary by stating, "The best that we can surmise is that patterns of physiological reactivity to anxiety are idiosyncratic, a circumstance which renders them unsuitable for use at the current stage of research on anxiety as a construct." (p. 56) On the other hand, in Spielberger, Anxiety and Behavior, Lazarus and Opton (48) favor combination of introspective reports and physiological or behavioral signs as the superior approach to validating the presence of anxiety states in humans.

In the present study, the Gilson Physiograph was utilized to record HR and GSR data for each subject during a rest period so as to establish an individual heart rate, and while taking selected items from the Concept Mastery Test. So as to eliminate activity which might influence the physiological measures, the test items were projected on a screen and the subjects were asked to offer their responses verbally into a microphone. In addition, extraneous noises were eliminated by placing earphones on each subject and these were maintained in place throughout the recording of physiological indices.

An initial reading was established for each subject during

the playing of music, and the range of reactivity was established by the sounding of a gong. The physiological data were quantified in the form of a deviation score representing the difference between the rest (baseline) and test-taking periods.

## Physiological Measures

### Equipment Used

Physiological measures of anxiety were assessed by simultaneous recordings of skin resistance (GSR) and heart rate (HR). The Gilson Polygraph, Model No. M5P, a multichanneled electrical recording oscillograph, was employed for this purpose. Skin resistance was measured by passing a constant current through electrodes attached to the second and third fingers of the left hand. The finger cups, Model SR6, were fed into the specially calibrated A680 bridge and then into a SE21 Servo to show changes in skin resistance of momentary to moderate duration. Measures of heart rate were recorded in beats per minute through a finger pickup attached to the fifth finger of the left hand. The finger pickup, Model FP6, was used in conjunction with the CT20 Cardiotachometer to give immediate indication of pulse change. Recordings were made continuously in rectilinear coordinates on fan folded graph paper (15).

### Heart Rate

The mean cyclic method, used by Mahlstrom, Opton, and Lazarus (31), was employed in measuring heart rate. In this method all beats during each of the six 10-second intervals immediately following the anxiety stimulus are averaged. The averaged scores are summed and an average beat obtained for this stress condition. The average heart beat per minute during stress is compared to the average beat per minute during rest to determine change.

### Galvanic Skin Resistance

Measurement of skin resistance has been reported in a variety of units of measurement. Most frequently, units are reported in raw resistance (kilohms), its reciprocal, conductance (micromhos), or log conductance (log micromhos). According to Eysenck (10) when comparing ways of reporting galvanic skin resistance, no one method is superior. The measurement of galvanic skin resistance in this study is reported in terms of ohms. Resistance change is measured from the score (in ohm units) recorded at rest to the average resistance score recorded during the condition of anxiety. When a change in resistance did not exceed one centimeter it was

not recorded. Scores were calculated on each record in order to adjust for the subject's resistance since this was not automatically adjusted for and standardized on the Gilson machine. Therefore, for each subject's record the number of ohms per centimeter is individually calculated and varies for each subject.

## Selection of Counselors

The counselors in the study were selected from graduate students in counseling and guidance at Arizona State University, all of whom had had courses in personality and counseling theory and at least one semester of supervised counseling practicum. Approximately thirty-five counselors who met these criteria were invited to attend a meeting at which time the project was explained.

The three counseling approaches used in the study were described (rational-emotive, desensitization, client-centered) and the counselors were asked to pick the one approach which they felt they would like to employ. They were also asked to express a second choice. It was explained that they would each participate in training sessions designed to help them gain an operational level of proficiency.

The majority of the counselors were able to utilize the approach which was their first choice and in no case did a counselor utilize an approach which he did not wish to try or which he felt did not fit him. Twenty-four counselors volunteered for the study (16 men and 8 women). As a result of attrition of clients the final group of counselors consisted of 16 men and six women.

Two weeks were set aside for training the counselors. All of the counselors had at least been exposed to the theory underlying each of the three approaches. The greatest familiarity was with the client-centered approach, as this philosophy is given the most attention in both the counseling theory course and in counseling practicum. Training materials for each of the approaches can be found in Appendices I, II, and III. In each case the counselors were urged to follow the particular approach as faithfully as possible and were observed by each other and their supervisor to additionally insure adherence to the approach.

## Post-Test Conditions

Each client was brought to the post-test room at Arizona State University and was tested individually. The STAI was administered first, following which test conditions were simulated and the GSR and heart rate readings taken during the same session.

Upon arriving in the post-test room the subject was made comfortable and administered the Trait Scale of the STAI. The following directions were then read aloud slowly: "Close your eyes and imagine you are in one of your high school classrooms. Your teacher enters and tells you to take your paper and pencil and get ready for a test over the material you have been studying. Now, open your eyes, read the directions (State scale) and complete the questionnaire."

Immediately following the administration of the STAI, the subject was seated adjacent to the Gilson Polygraph and was fitted with the electrodes sensing skin resistance and a photoelectric cell fitted on the middle finger, which measures heart rate. The subject was then fitted with earphones, which shut out extraneous noises, and all further directions were presented from a prerecorded tape. After encouraging the subject to feel comfortable and relaxed, quieting music was played, at which time a "rest" reading was obtained on the Gilson. Midway through the selection a gong sounded to excite a startle response, determining the stress excursion of the physiograph stylus so as to set the instruments to accommodate full excursion during the simulated test. The subject was then notified that selected items from the Concept Mastery Test (it was explained that this was an intelligence test) would be administered. The selected items were flashed on a screen, and the individual was asked to present his answers verbally. During the rest period and during the simulated test, the GSR and heart rate were continuously recorded.

## Experimental Design

The parent population in this study may be defined as: those students in the Mesa Public Schools with high test and low generalized anxiety who volunteered to participate as clients in an investigation of counseling at Arizona State University. The volunteer subjects were divided into two groups, by sex, and were randomly assigned to the three treatment groups and the control group.

## Hypothesis

Hypotheses to be tested are as follows:

$Ho_1$ There is no significant difference on post-treatment scores between the four groups in mean STAI scores.

$Ho_2$ There is no significant difference on post-treatment scores between the four groups in mean galvanic skin resistance (GSR) scores while taking a simulated test.

$Ho_3$ There is no significant difference on post-treatment scores between the four groups in mean heart rate (HR) scores while taking a simulated test.

Data* are to be analyzed by the Kruskal-Wallis H-test, the Mann-Whitney U-test, and a Multiple Comparison Sum test. All analyses were by 2-tailed tests, and a .10 level of significance was chosen.

The initial sample consisted of twelve subjects in each of the three treatment groups and in the control group. However, attrition immediately prior to and during treatment resulted in group of the following size which were used in the analysis.

Table 1
Final Sample Size

| | Boys | Girls | Total |
|---|---|---|---|
| Client-centered | 1 | 7 | 8 |
| Rational-emotive | 2 | 7 | 9 |
| Desensitization | 1 | 6 | 7 |
| Control | 1 | 8 | 9 |

## IV. RESULTS

### Finding

Analysis of the post-treatment differences in scores between the four groups was done by use of the Kruskal-Wallis ANOVA of ranked data. This analysis compared results between groups on the State-Trait Anxiety Inventory, heart rate, and galvanic skin response. A summary of these results appears in Table 2.

Table 2
Results of Kruskal-Wallis ANOVA

| Criterion | Degrees of Freedom | H | P |
|---|---|---|---|
| | | 3.42 | General $>$ .30 |
| STAI | 3 | 3.74 | Specific $<$ .30 |
| Heart Rate | 3 | 13.29 | $<$.01 |
| GSR | 3 | 12.97 | $<$.01 |

*Raw score data for all pre-and post-test criteria measures is reported in Appendix.

Differences between the four groups on both heart rate and galvanic skin response were significant at the .01 level, which permits rejection of two null hypotheses $Ho_2$ and $Ho_3$. However, the corresponding ranking of the groups on the three criterion measures strongly suggests a relationship among the various measures. Further exploration of the differences by treatment was done on a post-hoc analysis and is summarized in Tables 3 and 4 below:

Table 3
Multiple Comparison Rank Sum Test (2-tailed test)

| Source | [Min (Control, Treatment)] | | P |
|---|---|---|---|
| GSR | Client-centered | 62 | >.05 |
| | Rational-Emotive | 67 | >.05 |
| | Desensitization | 44 | <.05 |
| HR | Client-centered | 69 | >.05 |
| | Rational-Emotive | 56.5 | <.05 |
| | Desensitization | 51.5 | >.05 |

As can be observed from this analysis, treatment by desensitization is significant at the .05 level on the galvanic skin response criterion. The rational-emotive treatment group had significant score differences at the .05 level on the criterion of heart rate.

A more conservative test, the Mann-Whitney U, was then used for further post-hoc analysis. The results of this analysis are reported in Table 4.

Table 4
Mann-Whitney U Test (2-tailed test)

| Source | | U | P |
|---|---|---|---|
| GSR | Client-centered | 24.5 | >.10 |
| | Rational-Emotive | 22 | >.10 |
| | Desensitization | 14 | >.10 |
| Heart Rate | Client-centered | 33 | >.10 |
| | Rational-Emotive | 11.5 | <.10 |
| | Desensitization | 23.5 | >.10 |

With this final analysis, significance appeared with less strength but held for the one condition, rational-emotive treatment as measured by changes in heart rate. This allowed rejection of $Ho_3$ for this treatment group at a .10 level. All other conditions were found to be less than significant.

## Discussion

The ordering of the treatment groups is of particular interest as it relates to the theory underlying the three therapeutic approaches of the study. Client-centered counseling is clearly conceived, both in theory and practice, as applicable to the restructuring of core components of the personality, i.e., the self-concept and perceptions of reality. By contrast, desensitization was designed as a method for reducing specific fears. On two of the three independent criterion measures the desensitization and rational-emotive groups showed lower post-treatment anxiety than either the client-centered group or the controls. These results suggest that both the desensitization and rational-emotive treatments are more effective in reducing test anxiety than is the client-centered approach which developed out of efforts to effect global personality changes. For the desensitization group this was not an unanticipated result as prior research had demonstrated the utility of this therapy. However, the research evidence on rational-emotive therapy has been sketchy, particularly when used in the reduction of a specific anxiety state.

As is illustrated in Table 5, the rational-emotive treatment group showed the lowest post-treatment anxiety on two criteria, GSR and HR, while the desensitization group was second lowest. These descriptive findings lend credence to the effectiveness of rational-emotive therapy as a process for the reduction of specific anxieties in terms of psychophysiological measures.

Table 5
Ranking: Post-Treatment Score Means*

| Treatment | STAI | HR | GSR |
|---|---|---|---|
| Control | 46 | 190 | 183 |
| Client-Centered | 45 | 154 | 123 |
| Desensitization | 40 | 126 | 111 |
| Rational-Emotive | 39 | 92 | 111 |

*STAI scores are means; GSR and HR are sums of difference scores.

To relate the directional trends to independent probability statements may be inappropriate since the data suggest relationships among the several measures, i.e., when GSR is high HR is also likely to be high. Without any prior assumptions about the interdependence among the four groups on any of the measures, then the chance of any group being higher/lower than any other= n!; in this case, 1/24th or .0425. However, if there exists some basis for presuming any two of the four would tend to be related in some way, then the chance of any single group being considered higher or lower would then be= 3! = 1/12th or .085. The data suggest the existence of relationships among the treatment groups in the predicted direction. Although not significant in the statistical sense, see Table 5, the rational-emotive and desensitization groups have reduced test anxiety more than with the client-centered or control groups.

## Limitations

The combined effects of the difficulty in achieving volunteers from among public high school youth at the onset and the subsequent attrition resulted in undesirable consequences with respect to sample size and sex composition of the four groups. With a larger sample the results would have been more definitive. Likewise, the preponderance of females in the treatment group restricts the results applicable essentially to volunteer high school girls.

Budgetary and personnel limitations of the project obviated the possibility of extended training prior to the counseling and more exacting supervision during the counseling process. Extended training and supervisory measures would serve to insure that each treatment method would be administered in its most desirable form, making any comparison a clearer test of treatment effect. Random assignment of counselors rather than following preferences for treatment type among volunteer counselors would have assured more faith in the treatment effect uncompounded by experimenter effect.

# V. CONCLUSIONS

1. There were no significant differences among the four groups on measures of the State-Trait Anxiety Inventory (STAI) on either general or specific anxiety. $Ho_1$ was therefore accepted.

2. Analysis of group differences on both heart rate (HR) and galvanic skin response (GSR) found significance at the pre-specified

levels in the application of the Kruskal-Wallis H-test. Therefore $Ho_2$ and $Ho_3$ can be rejected.

3. A post-hoc test in the form of a Multiple Comparison Sum test was then utilized. This analysis showed significance at the pre-specified level between the Desensitization group and the Control group on the GSR criterion measure. Significant differences between the Rational-Emotive group and Controls were established for the HR criteria by this test.

4. A further post-hoc analysis was done with the more conservative Mann-Whitney U test. At this point significance was established only for the Rational-Emotive group vs. Controls on the criterion of HR.

5. In light of the diminished size of the treatment groups at the time of the post-treatment analysis caution must be given to the interpretation of these findings. However, it would seem clear that both the Desensitization and Rational-Emotive treatments have some power in the reduction of test anxiety among high school students when consideration is given to autonomic, physiological criteria.

## VI. IMPLICATIONS AND RECOMMENDATIONS

A number of unanticipated logistic problems were encountered in the course of conducting this project. One of the major problems lay in the well-meaning but variable behavior of many of the high school subjects of the experiment. We have learned that a high school student's expressed eagerness to participate in a study of this nature should by no means be construed as predictive of his or her future behavior with respect to regularity of attendance or punctuality. This was especially true when participation was voluntary (although paid) and at a site other than the public school where attendance is controlled. We found many students who met the criteria for participation in the research, expressed interest in participation, but failed to attend one or more of the meetings and/or counseling sessions. Our failure to plan effectively for attrition among clients cost dearly in obtaining the statistically desirable number of clients in the treatment groups and in restricting the conclusiveness of our findings.

Recommendation: Great care should be taken when working with a similar population to control attrition. Conducting the research

at the school site rather than the university laboratory (10 miles distant) would be one possible remedy.

A crucial problem in counseling research is an adequate description of the nature of the counseling process so that replication can be carried out. Counselors and therapists who verbally identify one particular theoretical and practical approach in their treatment modes often behave differently in the actual arena of performance (12). It has been observed, too, that counselors claiming to follow different approaches are much more similar in practice than their verbalized theoretical positions would indicate. Pre-counseling training, practice, and some supervision during the actual treatment were employed in this study in an effort to insure some uniformity of treatment groups. However, less than adequate systematic effort was made within each of the treatment groups to insure that the counseling did conform to the expressed model, i.e., Desensitization, Rational-Emotive, or Client-Centered.

Recommendation: Care should be taken to insure consistent intra-mode treatment on the part of the counselors. This might be accomplished by standardizing counselor-action modes or models. Random assignment of counselors to groups and standardized instructions would better counterbalance effects of the treatment bias and imprecision of approaches.

The problems of core personality change and reduction of specific anxieties, alluded to previously, are particularly important in further research. The relative effectiveness of the three approaches in influencing changes in major habit patterns of thought, emotion and behavior has been and should continue to be a topic of investigation. Also, the investigation of the relative effectiveness of the approaches in reducing anxieties to a variety of important situations other than tests would be a valuable contribution.

There is a tendency for counselor preparation programs to espouse primarily one approach to counseling. This counseling approach is passed on to the trainees as their major professional tool. This research clearly supports the notion that such a unilateral training is too restricting both in terms of counselor preference and counselor effectiveness. Counselor trainees, when given opportunity, choose to learn and employ divergent counseling approaches. Additionally, some of the less frequently employed approaches, such as rational-emotive and desensitization, are as effective or more so, in the treatment of certain counselee complaints. Both counselor training and practice should expand to incorporate the more promising new approaches.

# VII. SUMMARY

## The Problem

The present study was designed to determine the feasibility and relative effectiveness of client-centered, rational-emotive, and desensitization approaches to the reduction of test anxiety in high school students in the Mesa, Arizona, Public Schools.

## The Scope of the Study

The population from which the sample was drawn for this study was 2,336 students in grades ten through twelve in two Mesa, Arizona, public high schools. Each of the students was administered the State-Trait Anxiety Inventory (STAI) (50) and the resultant scores served as the basis of selection for the study. The STAI yields an A-Trait (generalized level of anxiety in daily living) score and an A-State (level of anxiety in a specific situation) anxiety score. Each subject in this study was administered the Trait Inventory and, specifically in relation to taking tests in school, the State Inventory. Prior research results (24) indicate that individuals possessing high generalized (Trait) anxiety are less responsive to attempts to reduce one specific anxiety (State) than are individuals possessing one or two specific anxieties and low generalized anxiety. Consequently, the subjects selected for this study were those possessing relatively low trait anxiety but high state anxiety related specifically to taking academic tests. The final sample consisted of thirty-three students meeting these criteria who volunteered to participate in the study.

Each student was counseled from seven to eleven times during a five-week period in the Spring of 1969. The counselors were 24 graduate students in the Department of Counseling and Educational Psychology, Arizona State University, all of whom had been enrolled in at least one semester of supervised counseling practicum and had taken at least one course in counseling theory and practice, and one course in personality theory.

Three approaches were utilized in counseling the high school students, viz., client-centered, rational-emotive, and desensitization. These three approaches were selected because: 1) They all purport to reduce client anxiety, 2) They are markedly different with respect to counseling technique, 3) They derive from differing theoretical bases (phenomenological, existential ego-psychology, behaviorism), and 4) The basic therapeutic techniques can be stated with relative simplicity and, given the appropriate learner, can be taught in a relatively short period of time.

The students in the study were randomly assigned to one of four groups, i.e., client-centered, rational-emotive, desensitization, and no-treatment controls. The counselors were solicited in a general meeting at which time the outlines of the study and a review of the three treatment approaches were presented. The counselors were invited to participate in the study and were asked to select one of the three counseling approaches which they felt suited them as a person and which they felt they would like to learn more about.

Counselor training sequences were designed for each of the three approaches and the counselors participated in these training sequences prior to counseling the subjects in the study. The training sequences are described in the Appendices. Each of the counselors indicated a readiness for beginning prior to commencing counseling.

## Criterion Instruments

The criterion instruments used to measure the effects of the treatments in the study were:

1) The Spielberger State-Trait Anxiety Inventory (STAI)
2) Psychogalvanic skin response during a simulated test (GSR)
3) Heart rate during a simulated test (HR)

The STAI was administered prior to and immediately following the counseling and the physiological measures were obtained during a simulated test immediately following the treatment period.

## The Results

While there were no significant differences between the four groups on the State-Trait Anxiety Inventory, significant differences were found between group treatments and controls on criteria of heart rate and galvanic skin response at the pre-specified level when data were analyzed by the Kruskal-Wallis H-Test. Post-hoc analyses disclosed significance in the desensitization treatment group and GSR; the rational-emotive group and heart rate as determined by a Multiple Comparison Sum Test. More cautious analysis of these differences with the Mann-Whitney U Test disclosed differences only between the rational-emotive group and controls on the heart rate criterion.

## Recommendations For Further Action

Because of the small sample size, recommendations for further action must be treated with appropriate caution. The recommendations may be conveniently grouped under the following three headings: 1) Counseling practice, 2) Counselor training, and 3) Further research.

### Counseling Practice

Practicing high school counselors should give consideration to expanding their repertoire of theoretical understandings and counseling techniques to include desensitization and rational-emotive counseling. The evidence from this study suggests that the latter two approaches may be better suited to the reduction of test anxiety in high school students than is client-centered counseling. Further useful evidence could be generated by counselors utilizing rational-emotive and desensitization approaches in dealing with other anxieties in students, for example, school phobia, public speaking anxiety, or dating fears.

Inevitably, when new counseling approaches are utilized, there are reactions from parents and school personnel which must be contended with. The employment of these new counseling approaches, with due discrimination and caution, will provide the practical benefit of gradually identifying the school and community reactions and effective ways of contending with such reactions.

### Counselor Training

The results of the present research lead the authors to recommend the increased attention to rational-emotive and desensitization approaches, both in theory and technique classes and in counseling practicum. Not that these approaches should be presented to the exclusion of others, but that they should receive a sufficiently careful treatment so that the counselor trainee could choose to utilize them if he so desired.

The inclusion of such approaches in counselor training could lead to two very desirable consequences:

1) Both practice and supervision of these approaches would improve as a consequence of wider inclusion in counselor education programs.

2) The wealth of clinical and research data would increase by their more frequent employment by counselors in the work setting.

## Further Research

The tentative but persuasive findings emanating from this research point to the need for further research. Of particular interest would be research with the following purposes:

1) To replicate the present study on a larger sample

2) To study the relative effectiveness of the three approaches applied to different client problems and utilizing different criterion measures

3) To study the relative effectiveness of the three approaches with counselors having varying levels of training and proficiency

4) To study process as well as outcome aspects of the three approaches.

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APPENDIX 1

Training of Client-Centered Counselors

The following is a portion of the outline supplied to the client-centered counselors, briefly summarizing their training activities:

Purpose: To assist each counselor in maximizing his or her proficiency in the use of client-centered counseling skills.

Materials:

1. Audio tape: "Interpersonal Communication," an address by Carl Rogers, 1965, Washington State University - 50 minutes.
2. Video tape: "Gloria," a counseling session involving Carl Rogers and a female client - 30 minutes.
3. Video tape: "Relationship Skills," a demonstration of the various client-centered counseling techniques. Film based on "Therapeutic Psychology" by Brammer and Shostrom.

Procedures:

1. The counselors will review with the supervisor the basic philosophical and theoretical rationale underlying client-centered counseling.
2. The counselors will hear or view the audio or video tapes.
3. Group discussions will be conducted at the end of a tape session.
4. Role playing will be utilized where one counselor will assume the role of a high school student who is anxious when taking tests.

APPENDIX 2

Training of Desensitization Counselors

The desensitization training was divided into three phases:

1) Experiencing relaxation as a subject
2) Experiencing desensitization as a subject
3) Role-playing employing relaxation training and desensitization.

The test anxiety hierarchy developed by Emery and Krumboltz (1967) was employed in this study with the client having the option to reorder or add items. The guidelines for relaxation, desensitization and the group hierarchy appear on the following pages.

RELAXATION

General Guidelines

1. You do not have to memorize the script, but try to follow it as closely as possible. Be familiar with the words, and do more than read it. (Voice and manner of presentation are very important.)

2. Look for signs of tension that might indicate difficulty in relaxation, e.g., eye flutter, body movement, irregular or rapid breathing, facial tension.

   a. Keep referring to the body part that appears tense.
   b. Repeat any tension-release phase if tension still persists.

3. Ask them for reactions (how they felt) after the session has been completed. Reactions associated with feeling warm, floating, "out of it," and unable to move are indications that a good state of relaxation was attained.

4. Present the hierarchies, have them rank them from low to high in degree of anxiety generated, and allow them to add any additional scenes that may apply specifically to them.

5. At the end of each session, be sure to tell them to practice relaxation at home.

6. Change your voice (more forceful, penetrating, commanding) when you wake them up with the counting techniques. Be sure that your client is functioning normally before letting him leave the counseling session.

## DESENSITIZATION

### General Guidelines

1. Clarify the settings of all the sequences.
   a. Location of counseling room
   b. Location of classroom
   c. Male or female client.

2. Relax the client with the same general techniques used in relaxation training. Know the different body areas that you relaxed earlier, and proceed with this same general sequence (arms, forehead and top of head, jaws and cheeks, chin and throat, chest and back, abdomen, legs, whole body). Generalizations can be made of body parts (arms, legs) and the tension-release phase need not be repeated unless relaxation cannot be achieved. Speak when the client exhales and be sure to use the correct tone of voice and feeling.

3. After you feel that your client is relaxed, say, "If at any time you do not feel relaxed or are anxious, raise your index finger."

4. Setting the scene.
   a. Your voice should be markedly different from the relaxation phase (more direct, more forceful, more penetrating). This is necessary to keep the client in the scene, to visualize it clearly, and not be tempted to run to a more comfortable, relaxed state.
   b. Set the scene, starting from the external boundaries, and move it nearer to the viewer (e.g., walls, furniture, object of concern).
   c. Present the scene slowly; allow some time for the scene to be set. (Give him time to visualize the things you are talking about.)
   d. Describe the scene as though you were looking through the eyes of the viewer (you see, you look, etc.).
   e. Be directive in the presentation. Don't say, "you ought to, you should," but "you are, you see very clearly."
   f. Encourage him to emotionally feel the situation. Say something like, "Don't be afraid to allow yourself to feel all of your feelings."

g. After the scene has been presented, wait (10 seconds the first time and 20 seconds the second time; if anxious, just switch it off).
h. Say, "Switch it off — Relax completely." (After this statement, your voice should change to that used in the relaxation phase.)
i. Repeat the scene after 45 seconds of relaxation. Every scene should be presented two times without the client becoming anxious before you advance to the next one. On the other hand, if the subject fails to relax after two successive presentations of the scene, drop down to a previous hierarchy. Present that one two times; then repeat the troublesome hierarchy twice. If dropping down to a lower hierarchy does not work, then go on to the next higher one. If this does not work, ask the client to renumber and/or add any intermediate steps before the hierarchy is reached.

Other Guidelines

1. Be watchful for his going to sleep. If you suspect this is the case, ask the client if he is still with you.

2. Don't forget to use first names occasionally.

3. Try to visualize the scene yourself as it is presented to the client.

4. Be alert for indicators of anxiety (eye flutter, body movement, change in breathing -- know the peculiarities of your client).

5. End the session with a hierarchy that the client has relaxed on.

6. Read the above guidelines as refreshers, even though you think you have the technique mastered.

## RELAXATION PROCEDURE

First Day

Subject should be lying on a mat with legs extended, head resting on a pillow or cushion, arms at sides not touching body or legs. No part of the body should require the use of muscles for support. The eyes should be closed with as little external stimulation as possible.

1. Have the subjects clasp the broom handle with their right hand. "Take a deep breath and tense the muscles of your right hand, forearm, and biceps. Tense until it trembles. Feel the muscles pull across your fingers and lower part of your forearm."

After holding about 5 to 7 seconds say, "Relax -- pay attention to the muscles of your right hand and forearm as they relax even more until your arm and hand are completely relaxed with no tension at all, warm and relaxed." Repeat the idea of warmth and relaxation.

If at any time cramps should develop, shorten the tension period for that subject by a couple of seconds.

2. When subjects report right hand and arm completely relaxed, usually after two to four trials, proceed to the left arm as above, keeping right arm relaxed. If tension should be reported in either arm, repeat the cycle again for that particular arm. Both arms should be in a state of complete relaxation.

At the end of the period, in bringing subjects back to 'normal' say, "I'm going to count from one to four. On the count of one, start moving your legs; two, your fingers and hands; three, your head; and four, open your eyes and sit up. One -- move your legs; two -- move your fingers and hands; three -- move your head around; four -- open your eyes and sit up." This must be repeated at the end of each session. Always check to see that the subjects feel well and alert before leaving.

The subjects should be reminded that they should practice relaxation twice a day between sessions. They should not work at it more than 15 minutes at a time and should not practice twice within any three-hour period. They should practice alone. This reminder should be given at the end of each session.

Second Day

Start the session by instructing the subjects to concentrate on their arm muscles becoming relaxed and warm. If any subject has difficulty, then return to the tension-release technique for that subject's arm. When relaxation is attained in both arms, proceed to '3'.

3. (Forehead and top of head) "Take a deep breath, frown hard, tensing the muscles of your forehead and top of head."

After holding about 5 to 7 seconds say, "Relax -- notice how these muscles feel as they relax. Feel the warmth and relaxation flow thru these muscles as they did in your arms (whatever the preceding muscle group may be). Pay attention to these muscles so that later you can relax them again." Go on to '4' when relaxation in arms and forehead are induced.

4. (Jaws and cheeks) "Take a deep breath and clench your teeth." After 5 to 7 seconds proceed as previously. When muscle relaxation is reported in all preceding muscle groups go on to '5'.

5. (Chin and throat) "Take a deep breath and tighten your chin and throat muscles, feeling two muscles in the front of your throat."

Third Day

Start the session as on the second day by instructing the subjects to relax those muscle groups already gone thru. If there is trouble in relaxing any group, return to the tension-release technique for that particular group.

6. (Chest and back) "Take a deep breath and tighten your chest muscles and the muscles across your back -- feel the muscles pull below your shoulder blades."

7. (Abdomen) "Take a deep breath and tighten your abdominal muscles -- make your abdomen hard."

Fourth Day

Again start the session as on previous days, making sure all muscle groups worked with are relaxed.

8. (Right leg) "Take a deep breath and tighten the muscles of your right leg and calf -- push down with toes and arch -- apply pressure on the ball of your foot."

9. (Left leg) Same as above.

INTRODUCTION

It is important that each subject understand and accept the process of treatment. Both the theory and course of treatment should be briefly explained and repeated if questions arise. It should be made clear that anxiety is a result of learning, and that treatment is a learning process. If any subject seems to

have trouble understanding, rephrase your explanation in language he can understand. The following brief explanation usually suffices.

The emotional reactions that you experience are a result of your previous experiences with people and situations; these reactions oftentimes lead to feelings of anxiety or tenseness which are really inappropriate. Since perceptions of situations occur within ourselves, it is possible to work with your reactions right here by having you imaging or visualize those situations.

The specific technique we will be using is one called desensitization. This technique utilized two main procedures -- relaxation and counterconditioning -- to reduce your anxiety. The relaxation procedure is based upon the work of Dr. Jacobsen, which was started in the 1930's. Dr. Jacobsen developed a method of inducing relaxation that can be learned very quickly, and which will allow you to become more deeply relaxed than ever before. Of course, the real advantage of relaxation is that the muscle systems in your body cannot be both tense and relaxed at the same time; therefore, once you have learned the relaxation technique, it can be used to counter anxiety, tenseness, and feelings like those you experience in the anxious test situation.

Relaxation alone can be used to reduce anxiety and tension, and you will be asked to practice relaxation between our meetings. Often, however, relaxation is inconvenient to use, and really does not permanently overcome anxiety. Therefore, we combine the relaxation technique with the psychological principle of counterconditioning to actually desensitize situations so that anxiety no longer occurs.

The way in which we will do this is to determine the situation in which you become progressively more anxious, building a hierarchy from the least to the most anxious situations with regard to taking a test. Then you will be taught the technique of progressive relaxation, and you will practice this. After you are more relaxed than ever before, we will then start counterconditioning. This will be done by having you repeatedly imagine the specific situations from the anxiety hierarchy while under relaxation. By having you visualize very briefly, while you are deeply relaxed, the situations that normally arouse anxiety, those situations gradually become desensitized, so that they no longer make you anxious. We start with those situations that bother you the least, and gradually work up to the most anxious moment. Since each visualization will lower your anxiety to the next, a full-fledged anxiety reaction never occurs.

## HIERARCHIES

The situations listed below are all related to taking an examination. If you actually experienced each situation, some would probably make you become much more tense or nervous than others. Read through this list and then rank each item according to three major categories:

A - Cause very little or no tension
B - Cause more tension than A and less than C
C - Cause very much tension.

Before you start ranking the items, read this list and feel free to add one or two related situations that may be particularly upsetting to you.

After determining whether each situation falls within an A, B, or C rating, you will then rank each category. Rank category "A" first, "B" second, and "C" third. Therefore, the least disturbing situation of all the situations rated as belonging to category A would be ranked number 1. The second least would be number 2 and so on until you lead up to the situation in category A which is the most disturbing.

| A, B, or C | 1, 2, etc. | |
|---|---|---|
| X | X | Sitting in your room reading a book or magazine for pleasure. |
| ____ | ____ | During the first class meeting, the instructor announces that there will be two major tests and a final exam in the course. |
| ____ | ____ | The instructor announces that you will be responsible for unannounced or "pop" quizzes in the course. |
| ____ | ____ | The instructor announces a "pop" quiz that you have prepared for. |
| ____ | ____ | The instructor announces a "pop" quiz that you have not prepared for. |
| ____ | ____ | You are studying for a major exam which is 4 days away. |

| A, B, or C | 1, 2, etc. | |
|---|---|---|
| _____ | _____ | You are studying for a major exam which will be given tomorrow. |
| _____ | _____ | Going to sleep the night before a major exam. |
| _____ | _____ | It is the day of the exam; one hour is left until exam time. |
| _____ | _____ | Entering the room where the exam is being given and sitting down. |
| _____ | _____ | The major exam is being handed out and you receive a copy. |
| _____ | _____ | Taking a major exam and working on a question to which you know the answer. |
| _____ | _____ | Reading over the instructions to a major exam and surveying the test. |
| _____ | _____ | While trying to think of an answer to an exam question, you notice everyone around you writing very rapidly. |
| _____ | _____ | Taking a major exam and working on a question to which you do not know the answer. |
| _____ | _____ | You glance over the questions on a major exam and realize that they are much more difficult than you thought they would be. |
| _____ | _____ | While working diligently, you notice that other students seem to be further along. |
| _____ | _____ | You have only 10 minutes left to complete a major exam but estimate that you have 20 minutes work still to do on it. |
| _____ | _____ | Discussing an important exam with friends the day before the exam is given. |
| _____ | _____ | Reading the first question and not being able to answer it. |
| _____ | _____ | Looking at the exam and discovering that it is an essay test. |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

APPENDIX 3

## Training of Rational-Emotive Counselors

Discussion, audio and video tapes, and role playing were utilized in the training of the rational-emotive counselors. Following are two guides which were supplied the counselors and which were used extensively in the training.

### TASK OF THE COUNSELOR - RATIONAL-EMOTIVE MODEL
(To be used in conjunction with Evaluation Form)

In working with clients who are needlessly troubled and unhappy, the task will be to show them:

1. That their difficulties result largely from distorted perceptions and illogical thinking.

2. That there is a relatively simple, though work-requiring method of reordering their perceptions and reorganizing their thinking so as to remove the basic cause of their difficulties.

Depression, anxiety, anger, and guilt can be erased if people learn to "think straight" and to follow this thinking with "effective action". It is the job of the counselor to attack the client's illogical thinking. This is done in two main ways:

1. The counselor serves as a frank counter-propagandist who directly contradicts and denies the self-defeating propaganda and superstitions which the patient has originally learned and which he is now instilling.

2. The counselor encourages, persuades, cajoles, and will insist, if necessary, that the client participates in some activity, i.e., doing something he is afraid of doing which will serve as a counter-propaganda agency against the irrational thinking.

### SPECIFIC AREAS AND HOW TO DEAL WITH THEM

Resistance is accepted as a "highly expectable disinclination to give up a well-trodden road for a relatively unexplored one". The counselor must be emotionally strong enough to risk attacking such defenses possibly getting rebuffed in return for his efforts. He will continuously hack away at these defenses.

Negativism and inertia are not to be accepted passively by the counselor since these are self-defeating behaviors. He will attempt to jolt the client out of this mode of behavior by using "well-aimed, well-timed, and harsh" language, if necessary, to bring about less lethargic behavior.

Silence may be viewed as a defense used by people who have a very low self-opinion. Long silences may be viewed as a form of resistance and should be attacked by asking the client what they are thinking or by structuring a situation and telling them what they are thinking in order to elicit a response even to the point of arguing. Short silences may be thought of as times for reflecting.

The past. "If an individual falsely believes, for example, that just because he has acted a certain way in the past he must continue to act that way in the future, there is no reason why he cannot be actively challenged on this belief and required to uphold it with factual evidence." The counselor will make known:

1. That there is no connection between past and present.
2. That because he acted a certain way in the past doesn't mean he needs to act that way in the future.
3. That one's past of tomorrow is one's present of today so by changing today's behavior one does change one's past.
4. That millions of others have changed past behavior, therefore, he can.
5. That a traumatic experience can be realistically explored but to make known to the client, most of all, he did survive.

Illogical thinking and self-defeating verbalizations are attacked by:

1. Bringing them to his consciousness forcefully.
2. Showing him how they are causing and maintaining his unhappiness.
3. Demonstrating exactly what the illogical links in his internalized sentences are by having the client operationally define the connection between the act and the emotion.
4. Helping him realize that emotions are signals about things they are telling themselves.
5. Teaching him to re-think by challenging, contradicting, and reverbalizing so his internalized thoughts become more logical and efficient.

The counselor's personality dynamics in RT are most important. The model the counselor provides is as important as the theory he uses. It is the therapy. A good client-counselor relationship is also a good friendship. The client should know that the counselor is a human being; it is important that he see the counselor in the total context of his life rather than as a special "god" who knows and has all the answers. Since people learn by imitation, the counselor may relate personal experiences, if appropriate, to the situation. It is important to have the client see him as a person with similar feelings and frustrations at times in his life.

The Initial Interview is one in which the client usually gives the counselor a clear picture of what is bothering him even though he may not know the underlying causes. It is important that:

1. Rapport is established to encourage the client to talk freely.
2. The client is made to see that this is a "thinking" process.
3. Information is given to fill in the gaps that the client has not been able to see about himself.
4. Counselor make a profile of the main problem areas of the client.
5. Encourage the client to keep a daily log of activities and thoughts.
6. Give something concrete to him at the end of the session so that he will feel good about what has and will happen (tools to work with).

Counselor_____Client_____Session_____

EVALUATION FOR RT COUNSELING

Structure: Counselor

___a. demonstrates knowledge of RT theory
___b. emphasizes "thinking" process of RT theory
___c. provides "missing" information for the client
___d. challenges the illogical, self-defeating language of the client
___e. provides concrete tools for the client
___f. recognizes past for what it is but does not dwell on it
___g. assigns specific___vague___homework and insists it be done
___h. follow-up was done on homework, reactions to previous sessions, etc.
___i. Other _____

METHOD: COUNSELOR

___a. established good rapport but did not let it get in his way
___b. reflected repeatedly the illogical thinking of the client
___c. felt free to use "strong", harsh language when appropriate
___d. offers counter-solution to client's problem
___e. "listens" and picks up clues from verbalizations of client
___f. refused to accept long silences
___g. attacked lethargic, negative behavior of the client
___h. attacked defenses freely
___i. Other_____

PERSONALITY DYNAMICS: COUNSELOR

___a. demonstrates concern and interest in the client
___b. accepted client's behavior without judgment
___c. seemed to hear and understand in terms of content
___d. was aware of client's feelings/emotions
___e. appeared strong under criticism
___f. applied personal experiences appropriately
___g. projected "human" side of self
___h. Other_____

INTERACTION: COUNSELOR

___a. gave the client a chance to talk
___b. encouraged talk from client
___c. did the majority of the talking
___d. felt free to interrupt, contradict, challenge
___e. used question and answer method most of the time
___f. evidence of good relationship between client and counselor
___g. Other_____

INITIAL INTERVIEW: COUNSELOR

___a. established good rapport to encourage talking
___b. explored all areas where specific anxiety was mentioned
___c. encouraged client to keep daily log of self-defeating thoughts, actions
___d. gave client something concrete to leave session with
___e. made a profile based on the 11 irrational ideas (note below; underline)

a. Needs love and approval from everyone
b. Self-worth based on performance
c. Some people are bad and should be blamed/punished
d. Easily upset when things do not go his way
e. Dwells on dangerous/fearsome things
f. Avoids difficult tasks/responsibility
g. Human unhappiness is externally caused, therefore anxiety cannot be prevented
h. The past is the determiner of present and future
i. Easily upset over others' problems
j. Need to lean on others for strength
k. There must be a perfect solution to all problems

Other_____

Rational-Emotive Psychotherapy: Ellis

## PHILOSOPHY AND CONCEPTS

Rational-emotive therapy makes certain assumptions about the nature of man and about the nature and genesis of his unhappiness or emotional disturbances, among which are the following:

1. Man is uniquely rational, as well as irrational. When he is thinking and behaving rationally, he is effective, happy, and competent.

2. Emotional or psychological disturbance -- neurotic behavior -- is a result of irrational and illogical thinking. Thought and emotion are not separate or different functions. Emotion accompanies thinking and is, in effect, biased, prejudiced, highly personalized, irrational thinking.

3. Irrational thinking originates in the early illogical learning that the individual is biologically disposed towards and that he acquires more specifically from his parents and his culture.

4. Human beings are verbal animals, and thinking usually occurs through the use of symbols or language. Since thinking accompanies emotion and emotional disturbances, irrational thinking necessarily persists if the emotional disturbance persists. This is just what characterizes the disturbed individual. He perpetuates his disturbance, he maintains his illogical behavior by internal verbalization of his irrational ideas and thoughts. "For all practical purposes the phrases and sentences that we keep telling ourselves frequently are or become our thoughts and emotions." This continuing self-stimulation is the reason that the disordered behavior and emotions are not extinguished. It is also the reason that simple understanding of the origins of the disturbance, obtained through psychoanalysis, is not sufficient to eliminate the disturbance.

5. Continuing states of emotional disturbance, being a result of self-verbalizations, are thus determined, not by external circumstances or events, but by the perceptions and attitudes toward these events which are incorporated in the internalized sentences about them.

6. Negative and self-defeating thoughts and emotions must thus be attacked by reorganizing perceptions and thinking so that thinking becomes logical and rational rather than illogical and irrational. The goals of counseling or psychotherapy are to

demonstrate to the client that his self-verbalizations have been the source of his emotional disturbance, to show that these self-verbalizations are illogical and irrational, and to straighten out his thinking so that his self-verbalizations become more logical and efficient, and so are not associated with negative emotions and self-defeating behavior.

Ellis identifies eleven ideas or values which are irrational, superstitious, or "senseless," and which are universally inculcated in Western society and "would seem inevitably to lead to widespread neurosis".

1. IT IS ESSENTIAL THAT ONE BE LOVED OR APPROVED BY VIRTUALLY EVERYONE IN HIS COMMUNITY. This is irrational because it is an unattainable goal, and if one strives for it, one becomes less self-directing and more insecure and self-defeating. It is desirable that one be loved; however, the rational person does not sacrifice his own interests and desires to this goal, but expresses them including the striving to be a loving, creative, productive individual.

2. ONE MUST BE PERFECTLY COMPETENT, ADEQUATE, AND ACHIEVING TO CONSIDER ONESELF WORTHWHILE. This again is an impossibility, and to strive compulsively for it results in psychosomatic illness, a sense of inferiority, an inability to live one's own life, and a constant sense of fear of failure. The rational individual strives to do well for his own sake rather than to best others, to enjoy the activity rather than engaging in it solely for the results, and to learn rather than to be perfect.

3. SOME PEOPLE ARE BAD, WICKED, OR VILLAINOUS AND THEREFORE SHOULD BE BLAMED AND PUNISHED. This idea is irrational because there is no absolute standard of right or wrong, and very little free will. "Wrong" or "immoral" acts are the results of stupidity, ignorance, or emotional disturbance. All men are fallible and make mistakes. Blame and punishment do not usually lead to improved behavior, since they do not result in less stupidity, more intelligence, or a better emotional state. In fact, they often lead to worse behavior and greater emotional disturbance. The rational individual does not blame others or himself. If others blame him, he tries to improve or correct his behavior if he has been wrong, and if he hasn't, he realizes that blaming in others is an indication of disturbance in them. If others make mistakes, he tries to understand them and, if possible, to stop them from continuing their misdeeds; but if that is not possible, he tries not to let their behavior seriously upset him. When he makes mistakes, he admits and accepts this but does not let it become a catastrophe or lead him to feel worthless.

4. IT IS A TERRIBLE CATASTROPHE WHEN THINGS ARE NOT AS ONE WANTS THEM TO BE. This is erroneous thinking because to be frustrated is normal, but to be severely and prolongedly upset is illogical, since (a) there is no reason why things should be different than they are in reality, (b) getting upset not only rarely changes the situation, it usually makes it worse, (c) if it is impossible to do anything about the situation, the only rational thing to do is to accept it, and (d) frustration need not result in emotional disturbance if one does not define the situation in such a way as to make obtaining one's desires a necessity for satisfaction or happiness. The rational person avoids exaggerating unpleasant situations, and works at improving them if he can or accepts them if he can't. Unpleasant situations may be disturbing, but they are not terrible or catastrophic unless we define them as such.

5. UNHAPPINESS IS CAUSED BY OUTSIDE CIRCUMSTANCES, AND THE INDIVIDUAL HAS NO CONTROL OVER IT. Actually, outside forces and events, while they can be physically assaulting, usually are psychological in nature and cannot be harmful unless one allows oneself to be affected by one's attitudes and reactions. One disturbs oneself by telling oneself how horrible it is when someone is unkind, rejecting, annoying, etc. If one realized that disturbances or emotions consist of one's own perceptions, evaluations, and internalized verbalizations, they could be controlled or changed. The intelligent person will realize that unhappiness comes largely from within, and while he may be irritated or annoyed by external events, he will recognize that he can change his reactions by his definitions and verbalizations of these events.

6. DANGEROUS OR FEARSOME THINGS ARE CAUSES FOR GREAT CONCERN, AND THEIR POSSIBILITY MUST BE CONTINUALLY DWELT UPON. This is irrational because worry or anxiety (a) prevents an objective evaluation of the possibility of a dangerous event, (b) will often interfere with dealing with it effectively if it should occur, (c) may contribute to bringing it about, (d) leads to exaggerating the possibilities of its occurrence, (e) cannot possibly prevent inevitable events, and (f) makes many dreaded events appear worse than they are. The rational person recognizes that potential dangers are not as catastrophic as he fears, and that anxiety does not prevent them, but may increase them, and may be more harmful itself than the feared events. He also realizes that he should do those things which he fears to do in order to prove that they are not actually frightful.

7. IT IS EASIER TO AVOID CERTAIN DIFFICULTIES AND SELF-RESPONSIBILITIES THAN TO FACE THEM. This is irrational because

avoiding a task is often harder and more painful than performing it, and leads to later problems and dissatisfactions, including loss of self-confidence. Also, an easy life is not necessarily a happy one. The rational individual does without complaint what he has to do, although he intelligently avoids unnecessary painful tasks. When he finds himself avoiding necessary responsibilities, he analyzes the reasons and engages in self-discipline. He realizes that the challenging, responsible, problem-solving life is the enjoyable life.

8. ONE SHOULD BE DEPENDENT ON OTHERS AND MUST HAVE SOMEONE STRONGER ON WHOM TO RELY. While we all are dependent upon others to some extent, there is no reason to maximize dependency, for it leads to loss of independence, individualism, and self-expression. Dependency causes greater dependency, failure to learn, and insecurity, since one is at the mercy of those on whom one depends. The rational individual strives for independence and responsibility for himself, but he does not refuse to seek or accept help when he needs it. He recognizes that risks, while possibly resulting in failures, are worth taking, and that failing is not a catastrophe.

9. PAST EXPERIENCES AND EVENTS ARE THE DETERMINERS OF PRESENT BEHAVIOR: THE INFLUENCE OF THE PAST CANNOT BE ERADICATED. On the contrary, what was once necessary behavior in certain circumstances may not be necessary at present. Past solutions to problems may not be relevant in the present. The presumed influence of the past may be used as an excuse for avoiding changing one's behavior. While it may be difficult to overcome past learnings, it is not impossible. The rational individual, while recognizing that the past is important, also realizes that he can change the present by analyzing past influences, questioning those acquired beliefs that are harmful, and forcing himself to act differently in the present.

10. ONE SHOULD BE QUITE UPSET OVER OTHER PEOPLE'S PROBLEMS AND DISTURBANCES. This is erroneous because other people's problems often have nothing to do with us and therefore should not seriously concern us. Even when others' behavior does affect us, it is our definition of its implication that upsets us. Becoming distraught over the behavior of others, while implying that we have power to control them, actually lessens our ability to change them. In any event, we suffer in the process and neglect our own problems. The rational person determines whether the behavior of others warrants becoming disturbed about, and if so, then attempts to do something that will help the other person to change. If nothing can be done, he accepts it and makes the best of it.

11. THERE IS ALWAYS A RIGHT OR PERFECT SOLUTION TO EVERY PROBLEM, AND IT MUST BE FOUND OR THE RESULTS WILL BE CATASTROPHIC. This is irrational because (a) there is no such perfect solution, (b) the imagined results of failure to find such a solution are unreal, but the insistence on finding one leads to anxiety or panic, (c) such perfectionism results in poorer solutions than are actually possible. The rational person attempts to find various possible solutions to a problem and accepts the best or most feasible, recognizing that there is no perfect answer.

These fallacious ideas are almost universal in our society, and where they are accepted and reinforced by continuous self-indoctrination, they lead to emotional disturbances or neurosis, since they cannot be lived up to. The disturbed individual is unhappy because he is unable to achieve his unreasonable shoulds, oughts, and musts. "For once a human being believes the kind of nonsense included in these notions, he will inevitably tend to become inhibited, hostile, defensive, guilty, ineffective, inert, uncontrolled, unhappy. If, on the other hand, he could become thoroughly released from all these fundamental kinds of illogical thinking, it would be exceptionally difficult for him to become intensely emotionally upset, or at least to sustain his disturbance for any extended period."

While the Freudians are right in pointing out the influences of early childhood on emotional disturbances, these are only secondary causes and could not continue to be influential if the individual did not acquire any of the basic illogical ideas listed above. It is not his early experiences alone which cause the disturbance, but his attitudes and thoughts about them, which are engendered by the illogical ideas.

Rational-emotive therapy accepts the fact that human events are largely controlled by causal factors beyond the individual's will, but believes that the human being has the possibility, difficult though it may be, of taking action how which will change and control his future. This recognition of the ability of the individual to determine, in good part, his own behavior and emotional experience is expressed in the A-B-C theory of personality incorporated in rational-emotive therapy: A is the existence of a fact, an event, or the behavior or attitude of another person; C is the reaction of the individual--emotional disturbance or unhappiness--which is presumed to follow directly from A. However, it is not A which is the cause of C, but B, which is the self-verbalization of the individual about A, his definition or interpretation of A as awful, terrible, horrible, etc. The recognition of this relationship leads to the possibility of changing and controlling one's attitudes and behavior in reaction to circumstances.

## THE THERAPY PROCESS

In view of the above philosophy and concepts regarding the nature of emotional disturbance, it follows that the process of counseling, according to Ellis, is the curing of unreason by reason. While there are other ways of controlling emotions--by electrical or chemical means, by sensori-motor techniques, or by doing something out of love or respect for someone else--counseling or psychotherapy does so by using the cerebral processes. Man, as a rational being, is able to avoid or eliminate most emotional disturbance or unhappiness by learning to think rationally. This is what occurs during the therapy process.

The task of the therapist is to help the client get rid of illogical, irrational ideas and attitudes, and to substitute for them logical, rational ideas and attitudes. The first step in the process is to show the client that he is illogical, to help him understand how and why he became so, and to demonstrate the relationship of his irrational ideas to his unhappiness and emotional disturbance. Ellis recognizes that most therapeutic approaches do this, but they (1) do it passively and indirectly, and (2) stop there.

Rational-emotive therapy goes beyond this step by showing the client that he is maintaining his disturbance by continuing to think illogically, that is, that it is his present irrational thinking which is responsible for his condition, and not the continuing influence of early events.

The third step is to get the client to change his thinking, to abandon his irrational ideas. While some approaches depend on the client to do this himself, rational-emotive therapy recognizes that the illogical thinking is so ingrained that the client cannot change it by himself.

A final step goes beyond dealing with the specific illogical ideas of the client and considers the main general irrational ideas, together with a more rational philosophy of living, so that the client can avoid falling victim to other irrational ideas and beliefs.

The result of this process is that the client acquires a rational philosophy of life; he substitutes rational attitudes and beliefs for irrational ones. Once this is accomplished, the negative, disturbing emotions are eliminated, along with self-defeating behavior.

## IMPLEMENTATION: TECHNIQUES OF THERAPY

The essential technique of rational-emotive therapy is active, directive teaching. After the initial stage, the counselor assumes an active teaching role to re-educate the client. He demonstrates the illogical origin of the client's disturbance and the persistence of illogical self-verbalizations which continue the disturbance. Clients are shown "that their internalized sentences are quite illogical and unrealistic in certain respects..." The effective therapist should continually keep unmasking the patient's past and especially his present illogical thinking or self-defeating verbalizations by (1) bringing them forcefully to his attention or consciousness; (2) showing him how they are causing and maintaining his disturbance and unhappiness; (3) demonstrating exactly what the illogical links in his internalized sentences are; and (4) teaching him how to re-think, challenge, contradict, and re-verbalize these (and other similar) sentences so that his internalized thoughts become more logical and efficient.

"Rational-emotive psychotherapy makes a concerted attack on the disturbed person's illogical positions in two main ways: (1) The therapist serves as a frank counter-propagandist who directly contradicts and denies the self-defeating propaganda and superstitions which the patient has originally learned and which he is now self-instilling. (2) The therapist encourages, persuades, cajoles, and occasionally even insists that the patient engage in some activity (such as doing something he is afraid of doing) which itself will serve as a forceful counter-propaganda agency against the nonsense he believes."

The rational-emotive counselor thus uses logic and reason, teaching, suggestion, persuasion, confrontation, deindoctrination, indoctrination, and prescription of behavior to show the client what his irrational philosophies are, to demonstrate how these lead to his emotionally disturbed behavior, to change his thinking--and thus his emotions--replacing these irrational philosophies with rational, logical ones. In addition, as was indicated earlier, the counselor goes further, to instruct the client, as a protective measure, in the major irrational ideas of our culture and to provide him with more effective rational ones.

## EXAMPLE

"The patient with whom the following recorded interview is held is a thirty-one-year-old free-lance copywriter who has been a fixed homosexual since the age of fourteen. He has had only a

few heterosexual experiences, when girls have taken the initiative with him; and these did not turn out well, since he has shown himself to be too passive, effeminate, and 'campy,' and the girls therefore quickly sought other lovers. He has been very promiscuous homosexually; but even in this area has tended to be unaggressive and passive, and never to make the first overtures himself and thereby risk possibly being rejected.

"The recorded interview comprises the fifteenth session with the patient, who had been seen irregularly for individual psychotherapy over a period of seven months at the time it occurs. However, he has more regularly attended group psychotherapy for the past five months. He first came to therapy largely because he wanted to do creative writing but did not have the courage to try, even though he was competent as a copywriter. After a few months of therapy, he did actively try some creative writing, and has been steadily progressing at it ever since. He also considerably improved his general working habits. At first, however, he made no attempt to work on his homosexual problem; and only in the few weeks before the fifteenth session did he show any inclination to do so. Both the therapist and his therapy group had been encouraging him to try going with girls, and he now seemed ready to make a serious attempt to do so--though, as the contents of the interview show, he is resisting heterosexual participation in several subtle and obvious ways.

"The recorded session that follows is a fairly typical interview, employing rational-emotive technique, except that the patient, probably because of the previous individual and group sessions he has had, is more accepting than many other patients are, and requires relatively little counterattacking and annihilating of his irrationally held positions. But he does give considerable lip service, as so many patients do, rather than true allegiance, to sane views and actions; and the therapist consequently keeps trying to induce him to question and challenge his lip service, and to think and act in a manner that will lead to truly rational convictions, and hence to thoroughgoing emotional and behavioral changes."

APPENDIX 4

Dear Parent:

It is our pleasure to invite _____ to participate in a very interesting project at Arizona State University. This project is sponsored by Arizona State University, and is not a part of the Mesa Public School Program.

We have discovered that students are frequently tense when taking tests in school and that this tension usually reduces their effectiveness. This is true not only of high school students but carries over into college.

We are trying out some counseling approaches for helping students feel more relaxed and perform better when taking tests. Those participating will be transported by University bus from the high school to the University and back to the high school again on ten separate occasions, twice weekly during a five week period. The dates and times of attendance at Arizona State are as follows:

| | | |
|---|---|---|
| <u>April</u> - | Wednesday, 16th | 3:30 to 6:30 p.m. |
| | or | |
| | Thursday, 17th | " " |
| and | Saturday, 19th | 8:30 a.m. to 12:30 p.m. |
| | Wednesday, 23rd | 3:30 to 6:30 p.m. |
| | or | |
| | Thursday, 24th | " " |
| and | Saturday, 26th | 8:30 a.m. to 12:30 p.m. |
| | Wednesday, 30th | 3:30 to 6:30 p.m. |
| | or | |
| <u>May</u> | Thursday, 1st | " " |
| and | Saturday, 3rd | 8:30 a.m. to 12:30 p.m. |
| | Wednesday, 7th | 3:30 to 6:30 p.m. |
| | or | |
| | Thursday, 8th | " " |
| and | Saturday, 10th | 8:30 a.m. to 12:30 p.m. |
| | Wednesday, 14th | 3:30 to 6:30 p.m. |
| | or | |
| | Thursday, 15th | " " |
| and | Saturday, 17th | 8:30 a.m. to 12:30 p.m. |

In addition to exploring ways of taking tests more effectively and in a more relaxed fashion, the students will have an opportunity to get better acquainted with the University.

It is our desire that those students who volunteer continue until the conclusion of the project.

If you consent to _____ being involved in this project please sign, tear off, and return the form below.

Sincerely,

Wayne R. Maes
Associate Professor
NDEA Guidance and
Counseling Institute

WRM:alt

I _____ consent to _____
(parent) (student)

participating in the test-taking experiment at Arizona State University. It is my understanding that he (she) will be transported by bus from the high school to and from the University to attend ten counseling sessions.

APPENDIX 5

State-Trait Anxiety Inventory (STAI)
Self-Analysis Questionnaire
Form X-1

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you <u>feel</u> right now, that is, <u>at this moment</u>.

There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

| | | Not At All | Somewhat | Moderately So | Very Much So |
|---|---|---|---|---|---|
| 1. | I feel calm | 1 | 2 | 3 | 4 |
| 2. | I feel secure | 1 | 2 | 3 | 4 |
| 3. | I am tense | 1 | 2 | 3 | 4 |
| 4. | I feel regretful | 1 | 2 | 3 | 4 |
| 5. | I feel at ease | 1 | 2 | 3 | 4 |
| 6. | I feel upset | 1 | 2 | 3 | 4 |
| 7. | I am presently worrying over possible misfortunes | 1 | 2 | 3 | 4 |
| 8. | I feel rested | 1 | 2 | 3 | 4 |
| 9. | I feel anxious | 1 | 2 | 3 | 4 |
| 10. | I feel comfortable | 1 | 2 | 3 | 4 |
| 11. | I feel self-confident | 1 | 2 | 3 | 4 |
| 12. | I feel nervous | 1 | 2 | 3 | 4 |
| 13. | I am jittery | 1 | 2 | 3 | 4 |
| 14. | I feel "high strung" | 1 | 2 | 3 | 4 |
| 15. | I am relaxed | 1 | 2 | 3 | 4 |
| 16. | I feel content | 1 | 2 | 3 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| 17. | I am worried..... | 1 | 2 | 3 | 4 |
| 18. | I feel over-excited and "rattled"..... | 1 | 2 | 3 | 4 |
| 19. | I feel joyful..... | 1 | 2 | 3 | 4 |
| 20. | I feel pleasant..... | 1 | 2 | 3 | 4 |

Form X-2

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you <u>generally</u> feel.

There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

| | | Almost Never | Sometimes | Often | Almost Always |
|---|---|---|---|---|---|
| 21. | I feel pleasant | 1 | 2 | 3 | 4 |
| 22. | I tire quickly | 1 | 2 | 3 | 4 |
| 23. | I feel like crying | 1 | 2 | 3 | 4 |
| 24. | I wish I could be as happy as others seem to be | 1 | 2 | 3 | 4 |
| 25. | I am losing out on things because I can't make up my mind soon enough | 1 | 2 | 3 | 4 |
| 26. | I feel rested | 1 | 2 | 3 | 4 |
| 27. | I am "calm, cool, and collected" | 1 | 2 | 3 | 4 |
| 28. | I feel that difficulties are piling up so that I cannot overcome them | 1 | 2 | 3 | 4 |
| 29. | I worry too much over something that really doesn't matter | 1 | 2 | 3 | 4 |
| 30. | I am happy | 1 | 2 | 3 | 4 |
| 31. | I am inclined to take things hard | 1 | 2 | 3 | 4 |
| 32. | I lack self-confidence | 1 | 2 | 3 | 4 |
| 33. | I feel secure | 1 | 2 | 3 | 4 |
| 34. | I try to avoid facing a crisis or difficulty | 1 | 2 | 3 | 4 |
| 35. | I feel blue | 1 | 2 | 3 | 4 |
| 36. | I am content | 1 | 2 | 3 | 4 |
| 37. | Some unimportant thought runs through my mind and bothers me | 1 | 2 | 3 | 4 |

38. I take disappointments so keenly that I can't put them out of my mind..... 1 2 3 4

39. I am a steady person..... 1 2 3 4

40. I get in a state of tension or turmoil as I think over my recent concerns and interests..... 1 2 3 4

APPENDIX 6

Means and Standard Deviations of Pre- and Post-Scores

| | STAI | | | | HR | | | | GSR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre | | Post | | Rest | | Test | | Rest | | Test | |
| Control | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD |
| | 64.3 | 7.2 | 46.4 | 12.4 | 85.9 | 5.3 | 91.8 | 8.6 | 504.4 | 527.5 | 945.0 | 486.5 |
| Client-Centered | 62.0 | 2.6 | 45.2 | 12.6 | 93.0 | 11.7 | 96.6 | 11.5 | 371.9 | 239.4 | 726.4 | 438.4 |
| Rational-Emotive | 62.1 | 4.3 | 39.8 | 9.5 | 91.0 | 8.8 | 90.3 | 9.0 | 832.22 | 264.6 | 766.11 | 585.0 |
| Desensitization | 63.6 | 3.7 | 40.4 | 8.2 | 84.4 | 8.9 | 88.4 | 9.1 | 595.5 | 389.5 | 481.3 | 450.0 |